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ABSTRACT

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ED239238

Identifying Main Ideas in Picture Stories: A New Measure and a Developmental Investigation

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Running head: Main Ideas in Stories

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Identifying Main Ideas in Picture Stories:

A New Measure and a Developmental Investigation

Abstract

A series of studies with adults resulted in a standardized test to assess children's comprehension of main ideas in simple narratives. The test, utilizing stories from the WISC-R picture arrangement task, was then employed in a developmental investigation with second, fifth, and eighth grade students. Each student completed the WISC-R arrangement task in its usual form in one session and ranked main idea alternatives associated with the picture stories in a second session. In addition, a standardized measure of reading comprehension was available for most students. It was found that the test was highly reliable and that children improved across the grades in their identification of an integrated action as the best main idea alternative and in their differentiation of the quality of the remaining alternatives. The main idea test also proved to have construct validity in that it predicted individual differences in reading comprehension. The test also has discriminant validity, in that performance on it was unrelated to picture sequencing ability with the very same pictorial items.

How often have we heard ourselves or a teacher tell a student, who sought help in identifying what to learn or study from a text, "Just try to get the main ideas." Hardly any reading expert would disagree with the importance of this skill. Historically, there are at least three types of research bearing upon the development of this skill in school-aged children--research on identifying and constructing topic statements for expositions (e.g., Thorndike, 1917; Woody, 1923; Otto & Barrett, note 1; Otto, Barrett, & Koenke, note 2; Danner, 1976; von Blaricom & White, 1976), research on rating the importance of each proposition in a text (Johnson, 1970; Brown & Smiley, 1977; Brown, Smiley, & Lawton, 1978; Pichert & Anderson, 1977; and Yussen, Mathews, Buss, & Miller, note 3), and, more recently, studies of children's summary rules (Brown & Day, 1980; Rumelhart, 1977). Although the techniques employed have certainly made a difference in the patterns of development observed in these studies, there is a general finding that older elementary school children and adults are more adequate than young children in performing these tasks.

The present investigation examined children's ability to identify statements associated with the main event in picture stories. It most closely resembles the tasks used in earlier research with topic statements. Briefly stated, the motivation for the study is as follows: (1) we wanted to develop a standardized test of children's ability to identify main ideas, (2) utilizing a widely employed set of nonverbal stimuli depicting simple action sequences. (3) Having developed the test, it was important to demonstrate its utility in documenting differences and developmental changes in the skill, (4) as well as the relation between identifying main ideas and reading comprehension. An elaboration of each point is provided below.

It seemed important to develop a standardized test of children's ability to identify main ideas, since none currently exists with wide applicability. Our cumulative reading of the literature indicates that other investigators have not replicated procedures and techniques to assess the skill from one study to the next, perhaps due to the rapidly changing conceptions of text structure and salience. And, although some standardized reading tests (e.g., the California Reading Test, the Metropolitan Achievement Tests: Reading) have several items calling on students to identify main thoughts, there is considerable variation in the task demands and underlying knowledge being targeted by these items both within and across the tests. The present test is easy to use, is compatible with several different models of text and event structure (e.g., story grammar, Kintsch and VanDijk's model of text analysis, and script theory), and offers a consistent format and cognitive parallelism across items.

To develop the test, we chose the picture sets from the WISC-R picture arrangement task. These items have a number of virtues. The usual arrangement task is believed to measure nonverbal IQ, which ought to be independent of verbal comprehension. Since pinpointing the main idea is a form of verbal comprehension, our task assessed a different process which ought to be discriminable from the act of sequencing. The arrangement task has also been well normed and validated as a sequencing problem and is used with thousands of elementary school children each year. Hence the picture sets are a highly accessible and educationally practical set of stimuli. Finally, and most importantly, the pictures allow us to create a unique test for comprehending

main ideas - the material to be comprehended (the stories) does not have to be read. So, comprehension of the event is for the most part assessed independently from reading skills such as determining sound-symbol relationships, word identification, searching back for information in the text, and memory for verbal propositions.

We expected to find, as have others, developmental changes in the ability of children to identify main ideas. The novel addition of the present study is that we defined a single best main idea statement and three alternatives varying in quality from it. By calling upon children to rate the quality of all four alternatives in each story, we ascertained not only how well they identify a main idea, but also, how well they differentiate among different types of information.

Finally, if our main idea assessment is to be considered a valid measure of some component of reading comprehension, it ought to be highly correlated with a standardized measure of reading comprehension. To assess this relation, we correlated main idea performance with children's performance on the comprehension subtest of the reading battery of the California Achievement Test.

Preliminary Studies with Adults

Three related studies were conducted with college students to generate a set of main idea statements to be used later with each of the WISC-R picture stories. In each study, the authors presented the picture stories to students, one at a time, so that the individual pictures were in the correct story sequence.

Study 1

Author Bingham recruited and tested 25 graduate students from social

science departments at the UW-Madison. All were native speakers of English. Each was tested individually and asked to generate one main idea statement orally, after briefly examining a picture story and grasping its meaning. The picture stories were displayed with the original cards from the WISC-R test kit. The experimenter recorded each response and then directed the subject to the next picture story. The exact instructions were: "Please look at this series of pictures and tell me briefly what it is all about." The subjects were given unlimited time to respond, but all of them reacted to each story within five seconds and the entire task never exceeded 15 minutes. The sequence of stories followed the same chronological order of presentation as prescribed in the WISC-R manual (Wechsler, 1974). Figure 1 displays picture story #8 in the WISC-R series.

Insert Figure 1 here

In all, 25 main idea statements were generated for each picture story. All three authors examined the list of statements for each story and pruned the list to eliminate obvious duplicate responses and obvious semantic equivalents. The goal was to produce a list to be rated by a new group of adults in study 2.

Study 2

In study 2, a new group of 20 students was asked to select the three best[1] main idea statements from a list based on study 1. Again, the students were native English speakers recruited from graduate classes at the UW-Madison and testing was done on an individual basis, this time by author Rembold.

Again, each subject saw the picture stories in the prescribed test order, one at a time. On a separate sheet of 8 1/2 x 11 in. white paper were listed the entire set of edited statements with a space for rating each one. The list contained at least 11 statements per story which had been edited to avoid duplication. See Table 1 for the list associated with the cowboy (Lasso)

Insert Table 1 here

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story. Subjects were instructed to place an x alongside 3 statements which were the best main ideas for the story. The main idea was defined as: "a phrase or sentence that tells what is happening in the story or what the story is about." The procedure was untimed, subjects took from 2-4 minutes to rate statements for each story, and the entire task took from 30-45 minutes.

For each story there was a tally taken of the total number of times each alternative was chosen. We labelled an alternative as a high consensus main idea if at least 50 percent of the students had selected it. For two of the stories (numbers 9 and 10 in the WISC-R task) there were no high consensus alternatives found. For the remaining 10 stories, there were from 1 to 3 high consensus alternatives obtained.

Study 3

Four multiple choice alternative statements were created for 10 picture stories. One choice represented a high consensus main idea statement from study 2 (i.e., at least 50% of the students had selected it). Where a story had produced more than 1 high consensus alternative, the three authors selected the one they collectively felt was best. Only 10 stories were included, since no

high consensus statements were identified for stories 9 and 10.

The second multiple choice alternative represented a bad statement by virtue of being an incorrect interpretation of the story. The third and fourth choices were plausible alternatives, describing either an action associated with a single isolated picture in the set, or a salient feature of the story's setting. All alternatives were edited to create approximate similarity in syntax, length, and vocabulary. Across stories the order of presenting the different types of alternatives was randomized.

A third group of 20 graduate students from the UW-Madison was recruited and asked to rank order each set of main idea alternatives in conjunction with the accompanying picture story (1 = best main idea statement, 2 = ..., 3 = ..., 4 = worst main idea statement). The format for presenting the pictures and statements is shown in Figure 2.

Insert Figure 2 here

Each subject worked through a booklet containing pictures and accompanying alternatives on the same page as in Figure 2. Authors Rembold and Bingham each tested half of the subjects, individually. The main idea was defined in the same way it had been in study 2. The procedure was untimed, subjects took from 15 seconds to 1 minute to rank order statements for each picture story, and the entire procedure took from 10-15 minutes.

The apriori expectation was that the high consensus main idea alternative would be judged as the best choice, the bad main idea alternative would be judged the worst choice, and the other alternatives would be judged to be of

intermediate quality. A secondary hypothesis was that among the intermediate alternatives, the description of the action in the single picture would be judged to be a better main idea than the description of the setting. This was based on the intuition that an action in the story (described in the former alternative) would be judged to be more important than the story context (e.g., Yussen, Mathews, Buss, & Kane, 1980).

So, the ideal ranks for subjects' judgments of alternatives across stories was expected to be: 1 - high consensus alternative, 2 - single picture description, 3 - setting description, 4 - incorrect statement. Table 2 presents the

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Insert Table 2 here

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means and standard deviations for the ranks actually obtained for the subjects.

As can be seen, the alternatives were ordered exactly as predicted. Given the 24 different ways that these 4 categories can be ordered, the likelihood of obtaining this particular predicted order by chance is $p < .04$. A close inspection of the mean ranks on an item by item basis revealed a perfect ordering for 7 of the stories, and a near perfect ordering on the remaining 3. The near perfect ordering was produced by some subjects viewing the setting alternative as worse than the incorrect alternative, thus reversing the ranks of categories 3 and 4.

Brief Comment

The process of having adults rank the quality of main ideas associated with the WISC-R pictures has thus yielded several important outcomes. For one, subjects were highly consistent and uniform in their rankings with little

variability in responding. For another, the adult rankings offer strong face validity to the apriori scheme distinguishing among levels of quality in the four types of topic statements. Finally, this scheme is theoretically and empirically meaningful. The test for main ideas was next employed in a developmental study.

Developmental Study

A study was designed to assess children's ability to identify the best main idea alternative for each story. Although past research has suggested improvement in this skill with development, the present research makes several important contributions: a) it assesses the skill with our carefully constructed test based on stimuli from a standardized test, b) it permits an examination of how well children at different grades differentiate among statements reflecting different degrees of central topic quality, c) it assesses the skills based on nonverbal items, to minimize the role of language and decoding skills in processing the actual story, and d) it considers the relation of the skill to another component of information processing with the same content (sequencing the picture stories) as well as to reading comprehension. There is no reason to suppose that sequencing the pictures would be related to fathoming the best linguistic description of them, if the WISC test developers are correct in assuming the sequencing task is not basically a linguistic measure. By contrast, if identifying main ideas is an important part of reading, we would expect a relation between it and a good measure of reading comprehension.

Method

Subjects

Seventy-five children from two parochial schools in the Madison, Wisconsin area participated in the experiment. Of these children, 25 were in the 2nd-grade (average age = 7-11), 25 were in the 5th-grade (average age = 10-11), and 25 were in the 8th-grade (average age = 13-9). There were approximately equal numbers of boys and girls at each grade level. All subjects were native English speakers, white, and ranged from lower-middle to upper-middle-class in SES.

Design

Each child was administered a) the standardized picture arrangement task of the WISC-R, and b) the same main idea task administered to the adults in study 3. In addition, c) scores were available for performance on the reading comprehension subtest of the California Reading Achievement Test (for all but 10 second graders and 2 eighth graders) administered within 1 academic year of the present experimental sessions.

Procedure

Authors Bingham and Rembold each tested about half of the children. For each child, there were two test sessions, each lasting 15-20 minutes. The WISC-R picture arrangement task was administered in the first session. The second session, from 4 to 9 days later, was devoted to the main idea task. For the second and fifth graders, testing was done individually. For the eighth graders, testing on the main idea task was done in small groups of 2-4 children.

The picture arrangement task was administered according to the standardized procedure detailed in the testing manual for the WISC-R (Wechsler, 1974). It

includes all 12 picture stories and a sample story. Briefly, the procedure consists of displaying the pictures of a story, one story at a time, in front of the child in a predetermined mixed-up order[2], asking the child to put the pictures in "the right order so they tell a story that makes sense," timing the child's reordering of the pictures with a hand stopwatch, and noting the reordered pattern produced by the child. No feedback is provided to the child concerning the "correct" order of the pictures.

Key features of the instructions to eighth graders for the main idea task were as follows:

"On each of the next ten pages, you will find a picture story, and four choices of "main ideas" for the story. By "main idea," I mean a phrase or a sentence which tells briefly what is happening in the story, or what the story is about. Your task is to look at the picture story and then rank the main idea choices from best to worst. Put a "1" by the main idea that you think is the best, a "2" by the second best, a "3" by the third best, and a "4" by the worst.

For the second and fifth graders slightly different instructions were given to a) accommodate the individual one-to-one testing format, b) minimize the intellectual task of keeping rank orders (i.e., 1st, 2nd, 3rd, and 4th) in mind as alternatives were examined, and c) eliminate alternatives once they were rated.[3] One practice item constructed from a WISC-R practice story was used to illustrate the procedure. The experimenter answered any questions, after which the child was directed to the first picture story. In order to prevent decoding or word recognition errors, each main idea choice was read aloud by the experimenter for the second and fifth graders while the child

followed the text. Eighth graders read the choices and were encouraged to ask for help with any unknown words (none did).

Results

Picture arrangement and reading comprehension scores

Scores for the WISC-R picture arrangement task and standardized reading achievement data are shown for the three grades in Table 3. The picture

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Insert Table 3 here

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arrangement scores are based upon a combination of the number of picture stories sequenced perfectly and the speed with which each story is sequenced. This is the measure prescribed by the WISC-R manual and utilized in computation of the overall IQ on the Wechsler battery.[4] The reading scores are reported in relation to national percentile norms.

The reading scores reveal that at each grade, the sample of children, on the average, performed above grade level in reading comprehension.

There was an increase in picture arrangement performance across the grades. A trend analysis, using Dunn's procedure, ($\alpha = .05$) revealed the pattern to be a statistically significant one. So, as expected, children at higher grades performed better on the usual WISC-R task.

Main idea rankings

Based on the apriori scheme, each of the 10 stories had one best main idea associated with it (the high consensus main idea statement). The mean likelihood that this alternative was selected first for the children was respectively: second graders, 3.72 (SD = 2.15); fifth graders, 5.04 (SD = 2.56); and eighth graders, 7.08 (SD = 2.18). (For descriptive purposes only, note that adults

in study 3 averaged 9.2 items correct, SD =.1.3.) Three planned comparisons were performed, using Dunn's procedure, and setting the familywise α at .05 (thus for individual contrasts, α = .017). Each pairwise difference in means was significant. By guessing, subjects on the average would be expected to obtain 10/4 or 2.5 items correct. Simple t tests showed that all three grades significantly exceeded this chance level of performance ($p < .05$).

In addition to determining how frequently children at each grade ranked the high consensus main idea first, an additional analysis was done to determine how well all of their rankings conformed to the apriori scheme verified in the third study with adults. According to this scheme, the high consensus main idea statements ought to be ranked 1, the single picture description 2, the setting description 3, and the incorrect statement, 4. Table 4 displays the obtained means and standard deviations for the average ranks for each type of statement at each grade. Intuitively, it appears that the eighth graders

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Insert Table 4 here

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conformed better to the apriori scheme of rankings than did the children at the younger grades. To analyze this trend precisely, the Kendall Tau index was used to determine the degree of concordance between the children's rankings and the apriori scheme. By comparing the ranks averaged across stories for each subject against the apriori scheme, a Tau was calculated. Tau's were then averaged across subjects within each grade. See the results in Table 5.

Insert Table 5 here

An inspection of the table reveals an apparent increase across grades in the concordance between children's rank ordering and the ordering expected by the apriori scheme. In planned comparisons, using Dunn's procedure ($\alpha = .05$ overall, $\alpha = .017$ for each of 3 comparisons), the difference was significant between grades 2 and 8. However, the remaining pairwise grade differences were not significant ($p > .05$).

Reliability of the main idea task

Since the test for main ideas has not been employed previously, some measure of its reliability is in order. The fairly conservative measure of internal consistency, the Kuder-Richardson (21) index, was .72, across all children, when the test score was defined as the number of times the high consensus alternative was selected first.

Relations among measures

Finally, we considered the relations between children's ability to identify main ideas and their performance on the other two measures - the WISC-R picture arrangement task and reading comprehension. These relations are captured in correlations appearing in Table 6.

Insert Table 6 here

As can be seen, there is a significant correlation between the likelihood of identifying the main idea and reading comprehension for two of the three age groups (fifth and eighth graders). However, there is no significant relation between identifying the main ideas and performing the usual WISC-R picture arrangement task. (Finally, at only one grade is there a relation between the picture arrangement task and reading comprehension.)

Discussion

There was a clear improvement across the grades in children's ability to select the best topic statement (the high consensus alternative) for the picture stories. There was also improvement across grades in the ability of children to differentiate among the quality of alternative topic statements. An inspection of the ranks suggests that eighth graders discriminated the alternatives in the same way adults had earlier. The high consensus alternative, which abstracted the main action sequence, was perceived as best. The single picture alternative, which stated a specific action tied to one picture in the sequence, was perceived as second best. The setting alternative, which described some feature of the story's context or background, was perceived as the third best alternative. And finally, the wrong alternative, which stated an action inappropriate to the story, was perceived as the worst alternative.

The second and fifth graders discriminations among the alternatives were not as finely honed as the eighth graders. Specifically, they seemed to have trouble discriminating between the high consensus and single picture alternatives. Note that the difference between these two types of alternatives is in how completely or generally they summarize or integrate the action of the story. So, the younger children seem to have a tougher time appreciating or detecting the "completeness" of action stated in the alternative, and in using such a criterion as the basis for discriminating the quality of the topic statement.

Children's ability to select the best main idea was highly associated with their reading comprehension. Such a relation is consistent with the view that being able to extract the "gist" of an event is an important skill in reading.

(The failure to find such a relation among second graders, alone, may stem from their early stage of comprehension skills - they were tested at the beginning of the school year.) The demonstration, here, however, goes one step further than others. Since the narrative event to be analyzed was presented pictorially, the children's ability to extract meaning from it was not confounded with their ability to "read" it.

While the ability to select the main idea is related to reading comprehension, it is noteworthy that it is not related to the ability to correctly sequence the picture stories. Such a discriminant pattern of findings validates the main idea task as one related to comprehension and not to something else (e.g., Sattler, 1974).

Finally, we note that the definition of a main idea is highly variable in reading instruction and in various research investigations such as ours. It could refer to such different prose entities as a title, a summary statement, a motive, or a conclusion. As such the processing required for a child to determine the main idea may call upon such different acts as spotting a topic sentence in the text, drawing an inference based on logical necessity, or divining some common feature underlying diverse facts.

Our study did not resolve the problem of what a main idea is or should be. We believe that there are many types of main ideas which may be context specific or defined by the task. Instead, we tried to be as precise as possible in our definition of main idea, by utilizing similar narrative events as stimuli and by constructing a parallel set of main idea statement types. Three of the statement types involved actions (a general one, a specific one, and a wrong one) and the fourth statement type involved information about the context

(i.e., setting or background). Our choice was constrained by the materials, by current thinking about the structure of simple narrative events (e.g., Yussen, note 4), and the desire to develop a quantitatively precise instrument. We encourage other scholars to explore this important facet of reading in their own way - but always striving for definitional and operational precision, as we did.

Conclusions

We have developed a sensitive measure of the ability to identify main ideas. The test has reasonable internal reliability and is valid in that it predicts reading comprehension, but is independent of sequencing pictures. Thus, we have demonstrated both convergent and discriminant validity. Since many assessments of children's ability to identify main ideas are done with idiosyncratic tests of unknown properties, this contribution is an important one. Further, since the test is based on items already used in the WISC-R intelligence battery, the test may prove valuable in information processing analyses of intelligence.

The developmental investigation demonstrates that with increasing age, children are better able to identify the main ideas present in meaningful events. Although such a finding has been uncovered before, the current study is the first effort to demonstrate carefully such a change with meaningful events that are seen (nonverbal) rather than read. Interestingly, although language and reading are believed to be independent of the usual WISC-R picture arrangement task (e.g., see Sattler, 1974) identifying the main ideas of the picture stories is a decidedly reading related skill. Thus, educators who use pictorial stories to teach young children reading skills should take

note. Based on our findings, there is more reason to be hopeful about the reading benefit that might arise from instruction in the identification of main ideas in picture stories than from instruction in how to sequence them. Of course, this is just a hunch based on the correlational findings. But, given the widespread advice (e.g., Pearson & Johnson, 1976) to offer young children both kinds of instruction and the presence of exercises to do just that in many reading workbooks, this hunch ought to be tested carefully in future reading research.

The findings from the present research can be used to inform instructional practice in reading, we believe. Dolores Durkin (1978-9, 1981) has bemoaned the lack of direct instruction teachers offer their students in reading comprehension. The deficiency, in part, stems from the lack of comprehension instruction built into the major developmental reading programs, themselves. In a recent article, she suggests that some "combination of definitions, explanations, descriptions, illustrations, demonstrations, and questions (1981, p. 519)" ought to be used to teach children how to comprehend.

The materials that have been generated for this study can be used to satisfy these criteria for teaching the concept of what a main idea is. The materials would be particularly useful for novice readers-i.e., children who are in the stage of acquiring decoding and word recognition skills-since our task does not require either skill. The task does require considerable involvement on the part of the child and directs him/her to semantically integrate information available in the stories.

In the hope that we might provoke discussion and use of the main idea task, we have outlined a set of inductive procedures for teaching the concept

of the main idea in Table 7. We are not wedded to any one component of the

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Insert Table 7 here

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instructional sequence, but feel that several of them merit serious discussion and try out. We urge our colleagues to explore these instructional techniques along with us.

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Footnotes

[1]Initially, we asked subjects to rate the worst main idea statements as well. However, an inspection of all the alternatives revealed no truly bad ideas that might be used as clearly wrong alternatives with children. This is not a surprising outcome given the caliber of the adult sample employed.

[2]The mixed up order is "fixed" by the WISC-R manual. For example, the "picnic" story shown in Figures 1 and 2 is displayed so that the subject initially sees pictures 3, 2, 1, and 4 in that order from left to right.

[3]The procedure involved showing a child the written alternative statements for each story on separate slips of paper, having the child pick the best main idea, eliminating the alternative chosen, and asking the child to select the best main idea from the statements which remained. The procedure was repeated two more times until only one slip of paper remained. The order of selecting main ideas dictated the numerical ranks assigned to them.

[4]It is also possible to compute the number of stories accurately sequenced (possible range 0-12) separately from the average time to arrange each story. We did compute and analyze these measures as well. The analysis revealed the same conceptual differences as reported for the omnibus score in the text.

Table 1

Main Ideas Generated for WISC-R Picture Story (No. 8) from Pilot Study One

Put an "X" by each of the three best main ideas.

VIII. LASSO

____Cowboy ties up shopkeeper and robs him.

____Try and be helpful and you get taken advantage of.

____Creative robbery.

____Individual under guise of purchase holds up owner.

____Never trust a cowboy.

____Cowboy robs store.

____Cowboy outwits storekeeper.

____Had to go in and find item to suit his needs.

____Good ol' boy uses rope purchased to tie up owner.

____Robbery takes place by a con man.

____Well done hold up.

Table 2

Means and Standard Deviations for the Average Ranks Assigned to Main Idea Alternatives for Adults

	High consensus main idea	One picture	Setting	Wrong
$\bar{X}$	1.09[a]	2.13	3.20	3.58
SD	.15	.14	.31	.35

[a] N = 20 for each mean

Table 3

Means and Standard Deviations for National Percentile on Reading Comprehension and Omnibus Score for WISC-R Picture Arrangement Task

Grade		Reading Comprehension	Picture Arrangement
2	$\bar{X}$	64[a]	25.96[d]
	SD	18	7.82
5	$\bar{X}$	68[b]	31.04[e]
	SD	28	6.33
8	$\bar{X}$	76[c]	33.88[f]
	SD	15	5.76

[a] $N = 15$

[b] $N = 25$

[c] $N = 23$

[d] $N = 25$

[e] $N = 25$

[f] $N = 25$

Table 4

Means and Standard Deviations for the Average Ranks Assigned to Main Idea Alternatives at Each Grade

Grade		Alternative			
		High consensus main idea	One picture	Setting	Wrong
2	$\bar{X}$	2.11[a]	2.08	2.59	3.22
	SD	.54	.20	.56	.48
5	$\bar{X}$	1.93	2.05	2.60	3.43
	SD	.64	.19	.47	.41
8	$\bar{X}$	1.40	2.11	3.11	3.38
	SD	.38	.27	.42	.41

[a] $N = 25$ at each grade and for each alternative

Table 5

Means and Standard Deviations for Taus

for Second, Fifth, and Eighth Grades

Grade		Tau
2	$\bar{X}$[a]	.49
	SD	.50
5	$\bar{X}$	.67
	SD	.50
8	$\bar{X}$	.80
	SD	.26

[b]

Adult Tau	$\bar{X}$ = .90
Study 3	SD = .16

[a] N = 25 for each grade

[b] For descriptive comparison, the comparable adult Tau from the adult study 3 is included, here. No direct statistical comparison is appropriate given slight differences in procedure across the studies.

Table 6

Correlations Among the Measures of Main Idea (Number of Correct High Consensus Choices Selected First), WISC-R Picture Arrangement (Omnibus Score), and Reading Comprehension (Percentile Score) By Grade

Grade and Measure	Measure	
	WISC Arrangement	Reading Comprehension
2nd		
Main idea	.31	-.15
WISC arrangement		-.26
5th		
Main idea	.23	.62*
WISC arrangement		.27
8th		
Main idea	.24	.50*
WISC arrangement		.40*

*Significantly different from zero, $p < .05$.

Table 7

Illustrative Set of Instructional Activities for Teaching Children the Meaning of "Main Idea" with the WISC-R Picture Stories

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I. Preparation

A. Write categories of information on the blackboard or chart paper

1. Setting or scenery
2. First picture-second picture-third picture ...
3. Main idea

B. Distribute copies of picture stories to children

II. Instruction

A. Directions

1. "These pictures tell a story."
2. "Take a few minutes and look at them, and then we will talk about them."

B. Teacher/Student Interaction Sequence

1. Ask for volunteers to describe story
2. Ask clarifying questions
3. Select one statement, repeat it, write it in appropriate category
4. Read category names-ask children why you wrote that statement in that category
5. Continue this procedure until information is placed in categories

5A. Match their choices - to "our" choices

6. Do not discuss Main Idea until all other information is assigned to categories
7. Review pictures and information
8. Ask "What is the one idea/thought that best tells about the whole story?"
9. Write two or three of the children's ideas
10. Discuss choices and reasons for choices
11. Focus on specific information that contributes to Main Idea e.g., literal ... inferential - setting etc. characters
12. Generate rules used in deriving Main Idea-include metacognitive strategies, e.g., knowing what you know, when you know, etc.

Table 7 (continued)

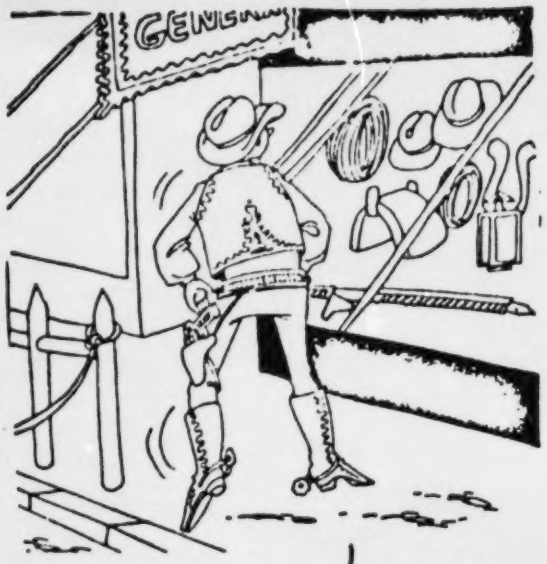
III. Follow-up

1. Use another picture story
2. Review rules for deriving Main Idea
3. Use same procedure with simple connected text

The inductive method was chosen because one desired goal is to have the children actively involved in the procedures for deriving Main Idea. Another goal is to have the children add this ability to their repertoire of <u>independent</u> comprehension skills. In this lesson we are concerned with guiding the children in the process of comprehending - not emphasizing the product or the representation of the event.

Figure 1. Sample WISC-R item (#8) from the picture arrangement subtest in its correct order.

Figure 2. Sample WISC-R item (#8) from the picture arrangement subtest with the main idea instructions and rating procedure administered to adults (study 3) and eighth graders (in the developmental investigation.

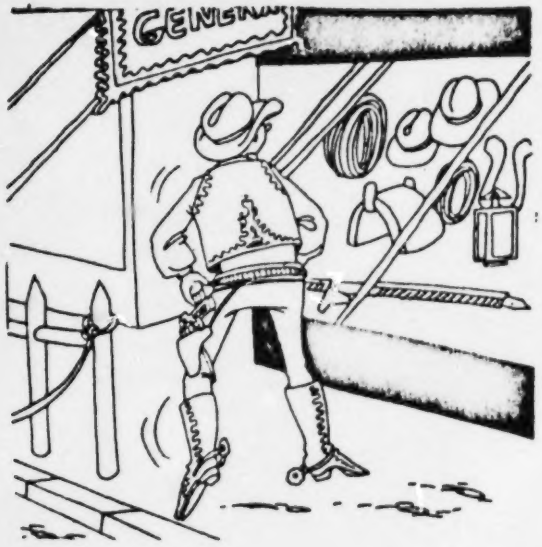


1

2

3

4



Put a "1" by what you think is the best main idea, a "2" by the second best, a "3" by the third best, and a "4" by the worst.

#8

_____ A cowboy buys some boots.

_____ There are cowboy hats in the store window.

_____ A cowboy robs a store.

_____ A cowboy points to a rope.